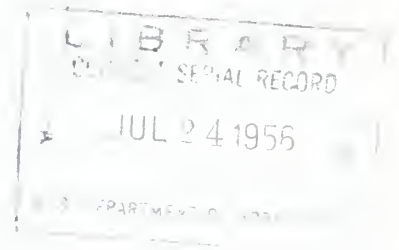


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Marketing Margins for Dairy Products



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MARKETING MARGINS FOR DAIRY PRODUCTS 1/

Fluid Milk

The marketing margin in 1955 for fresh milk sold to urban consumers in the United States measured as the difference between the average retail price and the corresponding average farm value changed little from 1954 (table 3). The indicated increase of 0.2 cent was the smallest year-to-year increase recorded in any of the past 5 years. Since the base period 1947-49, the average retail price per quart has increased 2.6 cents, the average farm value has declined 0.4 cent, and the marketing margin has increased 3.0 cents.

Table 3.-- Fluid milk: Retail price per quart in urban areas, farm value, and marketing margin, 1947-49 average and 1950-55

Year	Retail price	Farm value	Marketing margin	
	Cents	Cents	Cents	1947-49=100
1947-49	19.9	10.6	9.3	100
1950	19.6	9.8	9.8	105
1951	21.9	11.2	10.7	115
1952	23.0	11.9	11.1	119
1953	22.8	11.1	11.7	126
1954	22.4	10.3	12.1	130
1955 <u>1/</u>	22.5	10.2	12.3	132

1/ Preliminary.

The increase in the marketing margins has been associated with increases in the average hourly earnings of labor and in wholesale prices of items used in marketing milk (table 4). Labor costs comprise nearly half of the expenses of processing and distributing milk. Average hourly earnings of dairy plant employees have risen substantially more than marketing margins since the base period. Prices of containers, supplies, equipment, and other items also have increased, but at a slower rate. The impact of increasing cost rates on unit costs has been reduced by reductions in marketing services, such as less frequent delivery; by the increased volume handled by the marketing system; and by introduction of efficiencies which result in a more productive use of labor. Data for a large sample of milk dealers show that since 1952 labor cost per unit of product handled increased by less than half as much as would be expected if increases in national average hourly earnings data were fully reflected in increased unit costs.

1/ Prepared by Robert E. Olson, Agricultural Economist, Agr. Market. Serv.

Table 4.- Average hourly earnings for dairy products industries and selected wholesale price indexes, 1950-55

(1947-49 = 100)					
Year	: Average : : hourly : : earnings -: : dairy : : products : : industries:	: Fuel, : : power, : : and : : lighting : : materials:	: Machinery: and motive: : products : : :	: Container: : board : : :	: Glass : containers
1950	111	103.0	108.6	102.8	112.8
1951	121	106.7	119.0	117.8	121.8
1952	128	106.6	121.5	115.6	125.0
1953	136	109.5	123.0	117.2	134.4
1954	142	108.1	124.6	119.9	141.1
1955 :					
Jan.-June 2/ ..	145	107.8	126.4	119.9	142.6
July-Sept. 2/ ..	148	107.2	128.7	119.9	142.6

1/ Indexes computed from average rate per hour.

2/ Simple average of monthly data.

Bur. of Labor Statistics.

Farmer's Share

The farmer's share of the United States average retail price of fluid milk in quart containers was 45 percent in 1955. This was the smallest share reported in 12 years. Although it is substantially below the peaks reached after World War II and during the Korean War, it is still larger than for any year in the decade from 1930 to 1940. It is now at about the level of the mid-1920's (fig. 1).

Margins in Large Cities

From 1950 to 1955, marketing margins on single quarts delivered to homes in 25 large cities increased by 27 percent, and on single quarts sold in stores by 21 percent (table 5). The average margin in urban areas increased 26 percent during the same period (table 1). The average differential between prices of single quarts delivered to homes and sold in retail stores in these cities increased from 1.1 cents in 1950 to 1.9 cents in 1955. The level of the "large cities" series differs from the urban area series because no allowance is made for transportation from the farm to first receiving plant in the former and the latter is a weighted average of prices in individual cities rather than a simple average.

Average marketing margins for all types of milk sales to consumers are less than average margins for single quarts delivered to homes because much milk is sold under quantity discount plans, in multiple-quart containers and at retail stores. However, data on quantities sold at each of several prices for different quantities, containers, and outlets necessary to compute such an average are lacking.

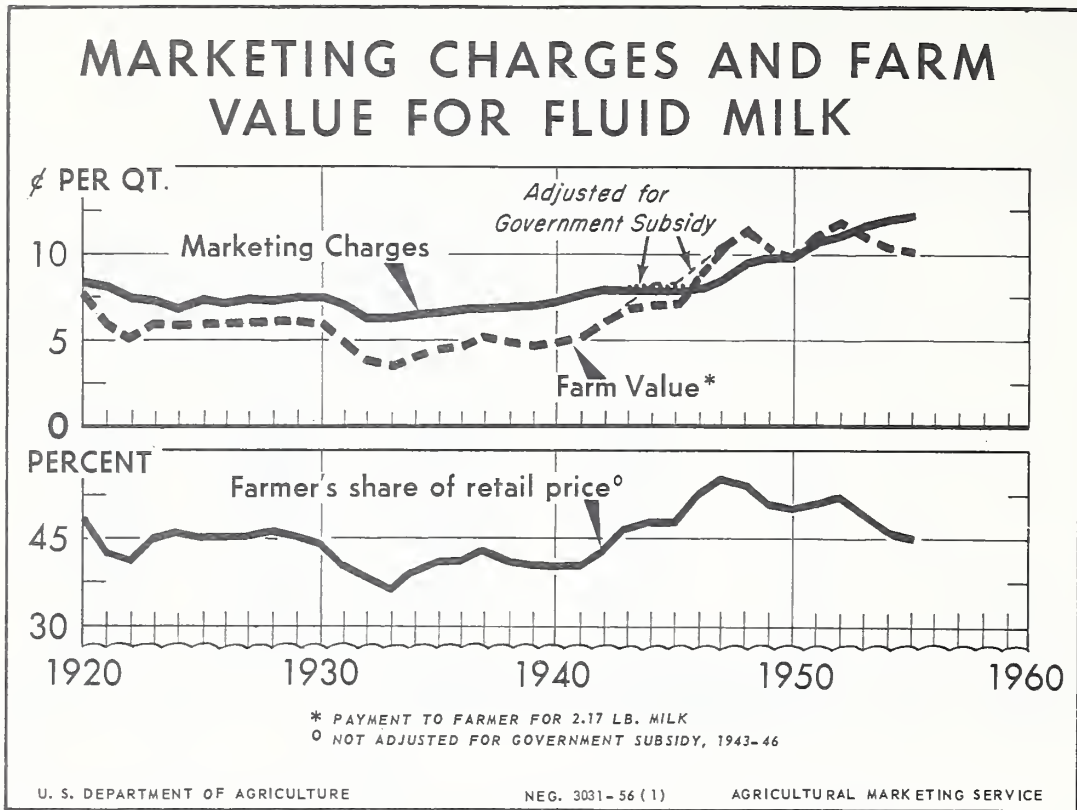


Fig. 1

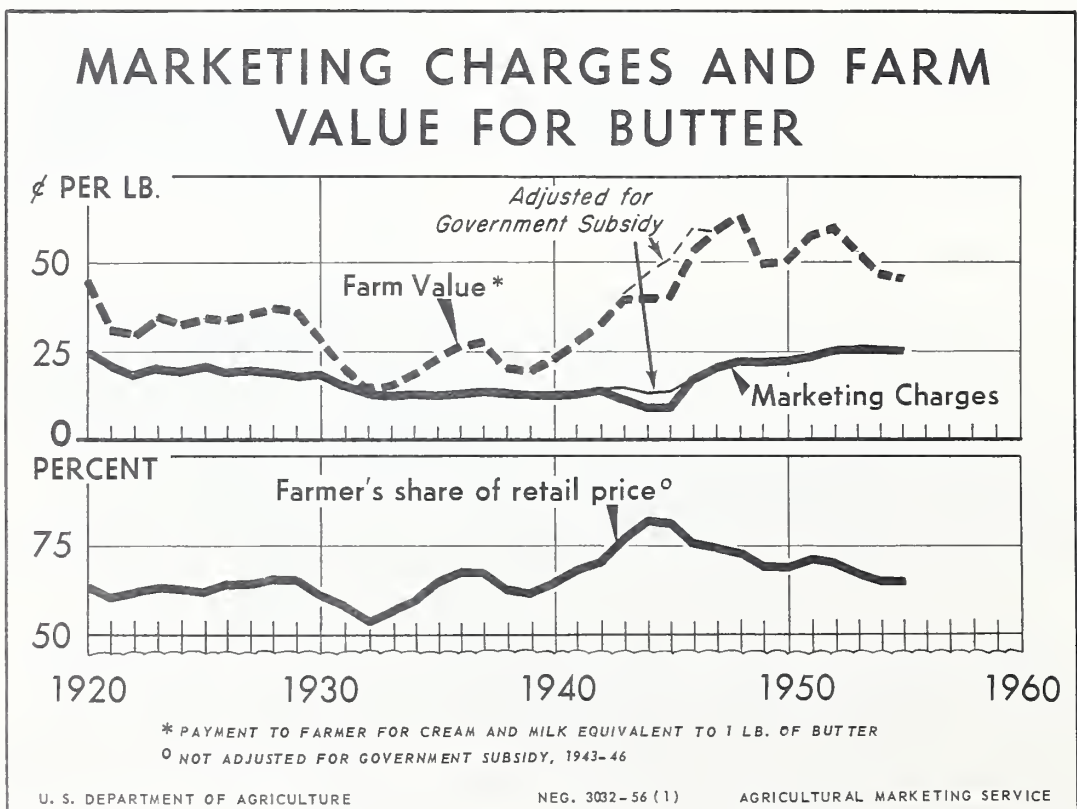


Fig. 2

Table 5.- Gross margin between retail price on single quarts of fluid milk and dealers' buying price, 25 large cities, 1950-55

Year	Delivered to homes	Stores
	Cents	Cents
1950	9.3	8.2
1951	10.1	9.0
1952	10.6	9.5
1953	11.2	<u>1</u> / 9.7
1954	11.5	<u>1</u> / 9.9
1955 <u>2</u> /	11.8	<u>1</u> / 9.9

1/ Average for 24 cities reporting.

2/ Preliminary.

Quantity Discounts

Discounts on the retail price of milk for quantity deliveries and quantity purchases in retail stores were more common in November 1955 than in November 1954. Among 120 markets reporting, in November 1955 discounts were allowed for quantity deliveries in 72 markets compared with 56 markets in November 1954. Discounts for quantity purchases in stores were granted in 77 markets in November 1955 contrasted with 63 markets in the same month of the previous year. Both reductions in prices for multiple-quart containers and for purchase of more than one single quart at a time are included. Discount plans for milk delivered to homes vary considerably, but discounts are usually granted on the basis of number of quarts per delivery or per month.

Importance of Multiple-Quart Containers

Sales of milk in multiple-quart containers in the 18 markets for which recent data are available varied from 1 to 75 percent of all milk sold in quart, half-gallon, and gallon containers (table 6). Frequently, surveys have been made in markets where multiple-quart containers are relatively important. Even so, quart containers are used for more than half the milk sold in household size containers in 11 of these 18 markets.

Effect of Quantity Discounts on Price Spreads

A study of margins in these 120 markets for November 1955, June 1955, and November 1954 shows the average effect of quantity discount plans and multiple-quart sales on farm-to-retail price spreads (table 7). The markets were divided into four groups according to their status in November 1955:

- Group I, markets without quantity discounts and no store differential
- Group II, markets with quantity discounts but no store differential
- Group III, markets without quantity discounts but with store differential
- Group IV, markets with quantity discounts and store differential

Table 6.- Proportion of milk sales, by container size in 18 markets, specified recent periods

Market	Period	Proportion of milk sales in quarts, half gallons, and gallons		
		In	In	In
		quarts	half gallons	gallons
		Percent	Percent	Percent
Akron, Ohio	1953-55	39	27	34
California	Oct. 1954	77	23	---
Chicago, Ill.	Apr. 1955	25	40	35
Cleveland, Ohio	1953-55	69	26	5
Columbus, Ohio	1953-55	60	40	---
Dayton, Ohio	1953-55	78	20	2
Detroit, Mich.	Sept. 1954	75	25	---
Kansas City, Mo.-Kans.	Feb. 1954	56	40	4
Louisville, Ky.	June 1955	61	39	---
Memphis, Tenn.	Sept. 1954	48	46	6
Minneapolis-St. Paul, Minn.:	1954	62	38	---
Milwaukee, Wis.	Dec. 1953	26	74	---
New York, N. Y.	Jan. 1955	99	1	---
Rochester, N. Y.	May 1954	97	3	---
St. Louis, Mo.	June 1955	26	74	---
San Antonio, Tex.	June 1955	45	55	---
Seattle, Wash.	June 1954	76	24	---
Wichita, Kans.	Aug. 1955	34	66	---

Data for Ohio markets published by Ohio Agr. Expt. Sta. Percentages for other markets computed from data published by market administrators or milk control agencies.

Price spreads were computed for delivery or purchase of 1 quart, 2 quarts, and 4 quarts whether prices were quoted for milk in multiple-quart containers or quart containers. The markets included in each group were the same each month.

In markets with quantity discount pricing but no store differential ^{2/} on single quarts (Group II), margins on single quarts averaged higher than in markets without price reductions for quantity purchases (Group I). Conversely, margins averaged lower on sales of 4 quarts or more to a customer.

Similarly, margins on single quarts in Group IV markets which had both quantity discounts and store differentials were higher than in Group III markets which had store differentials but no quantity discounts. However, margins per quart on delivery or purchase of 4 quarts or more were lower for Group IV markets than for Group III markets.

^{2/} Difference between home delivery and store price.

Table 7.- Effect of quantity discount and store differentials on marketing margins 1/ for milk

Group	:Quantity :		: Marketing margin per quart <u>1/</u>					
	: Purchased: or : delivered:	: Markets	: Delivered to homes			: Sold in stores		
			: Nov.	: June	: Nov.	: Nov.	: June	: Nov.
			: 1955	: 1955	: 1954	: 1955	: 1955	: 1954
	: Quarts	: Number	Cents	Cents	Cents	Cents	Cents	Cents
I :	1	25	11.1	10.9	10.5	11.1	10.9	10.5
II :	1	27	11.8	11.9	11.4	11.8	11.8	11.3
:	2	27	11.2	11.4	11.1	10.9	11.3	10.9
:	4	27	10.8	11.3	10.8	10.5	10.8	10.7
III :	1	18	11.5	11.3	11.2	10.4	10.3	10.3
IV :	1	50	12.3	12.1	11.8	10.8	10.9	10.6
:	2	50	11.5	11.3	11.2	9.8	9.7	10.0
:	4	50	10.8	10.7	10.8	9.5	9.5	9.8

1/ Difference between retail price and dealers' buying price for milk used for bottling.

Group I - Markets without quantity discounts and without store differentials in November 1955.

Group II - Markets with quantity discounts but without store differentials on single quarts in November 1955.

Group III - Markets without quantity discounts but with store differentials in November 1955.

Group IV - Markets with quantity discounts and with store differentials in November 1955.

The data show that consumers who buy in quantities of 4 quarts or more could secure milk at lower prices in relation to the farm value of the milk in markets with quantity discount pricing than in other markets. Yet the savings may not be as large as might be inferred from comparisons of quantity discount prices with single-quart prices because the latter averaged higher in markets granting discounts for quantity purchases than in markets without quantity discounts.

This is not surprising as margins on single quarts would be expected to be greater in markets with quantity discount pricing because the principle of such pricing is to vary prices in line with costs of rendering the service. These groups were designed to show only the effect of quantity discounts on marketing margins. Other factors such as size of city and geographic location not analyzed here affect the level of marketing margins. Therefore, these data are not adequate to attribute significance to small differences in margins between groups such as the differences between Groups I and III.

Marketing margins for single quarts in all four groups were from 0.1 to 0.6 cent wider in November 1955 than in the same month a year earlier. But in the markets with quantity discounts, margins on purchases of 4 quarts were unchanged to 0.3 cent lower than in November 1954.

Margins Where Milk is Sold in Gallon Jugs

In 21 markets for which prices of milk in gallon jugs were reported in November 1955, the average margins between the retail price per quart and dealer buying prices were as follows:

Home delivery:

Quarts	12.8 cents
Half gallons	11.7 cents
Gallons	10.3 cents

Stores:

Quarts	11.4 cents
Half gallons	9.5 cents
Gallons	9.1 cents

Margins on milk sold in gallon jugs in these 21 markets were lower than for purchases of 4 quarts in any of the 4 groups of cities reported in table 7. This was true for both home delivery and store sales. However, margins on milk sold in quarts and half gallons were higher than on purchases of equivalent quantities in the other groups of markets with the exception of quart and half-gallon sales in Group II and half-gallon sales in Group IV.

These comparisons measure only the impact of the marketing of milk in gallon jugs on the retail pricing structure and on margins. Data available are not adequate for a general evaluation of this method of marketing and pricing milk in terms of cost and merchandising advantages or disadvantages.

Store Differentials, November 1955

Differences in marketing margins between equivalent quantities of milk marketed through stores and milk delivered to homes in November 1955 varied from 1.1 to 2.2 cents per quart in three groups of markets (table 8). The greatest difference was on purchase of 2 quarts in the markets with gallon jugs. For purchase of 4 or more quarts at one time in the markets with quantity discounts or gallon jugs and 1 or more quarts in the cities without discounts, the average store differential varied from 1.1 to 1.3 cents per quart.

Unit Operating Costs

Analysis of operating expenses for a large group of independent milk dealers shows that gross margins per unit of milk handled increased about 9 percent from the first 6 months in 1952 to the same period in 1955 and net margins before income taxes declined about 13 percent. Costs per unit in all of the major expense categories increased from 1952 to 1955. The increases ranged from 6.5 percent for containers to 28.3 percent for other expenses.

Table 8.- Store differentials in three groups of markets, November 1955

Group	Quantity of delivered: Markets or purchased:		Store differential Cents per quart
	Quarts	Number	
II Without quantity discounts	1	18	1.1
IV With quantity discounts	1	50	1.5
	2	50	1.7
	4	50	1.3
Markets with gallon jugs	1	21	1.4
	2	21	2.2
	4	21	1.2

These data reflect the average costs of handling fluid milk and cream products for this group of milk dealers. They show the relative importance of the major cost elements included in the gross margins of milk dealers as well as the changes since 1952 (table 9).

Table 9.- Unit operating expenses per 100 pounds of milk handled for a large group of milk dealers, January-June, 1952-55

Expense categories	January-June,				Change 1952-55
	1952	1953	1954	1955	
	Dollars	Dollars	Dollars	Dollars	Percent
Wages, salaries, and commissions	1.99	2.00	2.07	2.16	8.5
Container	.62	.64	.64	.66	6.5
Supplies	.31	.31	.34	.34	9.7
Repairs, rent and depreciation ...	.53	.52	.58	.63	18.9
Other expenses	.60	.63	.67	.77	28.3
Net margin before income taxes ...	.60	.64	.58	.52	-13.3
Gross margin	4.65	4.74	4.88	5.03	9.2

Manufactured Dairy Products

Farm-to-Wholesale Price Spreads

The spread between the Chicago wholesale price and the United States average farm value of creamery butter increased by 9 percent from 1950 to 1955 (table 10). This spread was the same in 1955 as in 1953. For American processed cheese the spread between the Chicago wholesale price and the farm value was 4 percent less in 1955 than in 1950 and 21 percent less than in 1953. The spread between the average manufacturer's selling price of evaporated milk and the farm value in 1955 was 14 percent wider than in 1950, but 2 percent smaller than in 1953.

Table 10.- Farm-wholesale and farm-retail price spreads for creamery butter, American processed cheese, and evaporated milk, 1950-55

Index numbers 1950 = 100						
Year	Farm-wholesale price spread			Wholesale-retail price spread		
	American : processed: cheese	Creamery : butter	Evaporated : milk	American : processed: cheese	Creamery : butter	Evaporated : milk
1950	100	100	100	100	100	100
1951	111	98	108	100	113	100
1952	107	105	108	103	119	100
1953	122	109	116	123	121	135
1954	107	107	114	136	119	135
1955 1/	96	109	114	144	118	124
1/ Jan.-Sept.						

Wholesale-Retail Price Spreads

In 1955 price spreads between average retail prices paid by urban consumers in the United States and wholesale prices for American processed cheese, creamery butter, and evaporated milk were wider than in 1950 by 44, 18, and 24 percent. The wholesale-retail price spread for creamery butter in 1955 was 1 percent lower than in 1954, for evaporated milk it was down 6 percent, and for American processed cheese it was 6 percent more than last year.

Price Spreads and Costs

Farm-to-wholesale price spreads for creamery butter, American processed cheese, and evaporated milk have increased by less than the amounts indicated by changes in average hourly earnings of employees in dairy plants and wholesale prices of other major items of cost. Costs in the manufactured dairy products industries are affected by price changes in the same cost items as fluid milk plants but the items have differing importance for plants making different products. A cost-price freeze is indicated by continued reductions in the numbers of creameries and cheese factories. On the other hand, the plants that remain tend to be larger and more efficient. Indirect evidence of an increase in the efficiency of dairy plants is shown by the downward trend in the number of production workers in the dairy products industries. Since the base period 1947-49, the number of production and related workers in the dairy products industries has decreased about 25 percent while the quantity of milk equivalent used for manufactured dairy products has increased about 7 percent.

Wholesale-retail price spreads for creamery butter and evaporated milk have increased more in line with changes in cost rates. There probably has been less opportunity for mechanization and other measures to increase labor productivity in distribution than in processing. The wholesale-retail price spread has increased substantially more for

American processed cheese than for the other products and more than the indexes of wholesale prices representing items of cost. However, the farm-to-wholesale price spread for American processed cheese has declined since 1950 so that the overall farm-to-retail spread for American processed cheese has increased by 27 percent since 1950.

Farmer's Share

The farmer's share of the retail prices of creamery butter and evaporated milk exhibit the same short-term and long-term pattern as the farmer's share for fluid milk except that the variation is greater.

The farmer's share of the retail price of creamery butter was 65 percent in 1955 compared with the 1947-49 average of 72 percent and a 1935-39 average of 64 percent (fig. 2 -- see p. 13). It has declined each year since 1951.

The farm value of milk for American processed cheese averaged 48 percent of the retail cost in 1955, 59 percent in 1952, and 54 percent in 1950. ^{2/} For evaporated milk the farmer's share was 44 percent in 1955, 52 percent in 1947-49, and 40 percent in 1935-39.

^{2/} Not available prior to 1950.

